



COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. VA0004031
Effective Date: January 11, 2016
Expiration Date: December 31, 2020

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND
THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, and Parts I and II of this permit, as set forth herein.

OWNER: Tyson Farms, Inc.
FACILITY NAME: Tyson Farms, Inc.
COUNTY: Hanover County
FACILITY LOCATION: 13264 Mountain Road.
Glen Allen, VA 23059

The owner is authorized to discharge to the following receiving streams:

STREAM: Chickahominy River, UT
RIVER BASIN: James River
RIVER SUBBASIN: James River (lower)
SECTION: 4
CLASS: III
SPECIAL STANDARDS: m

A handwritten signature in blue ink that reads "Emily C. Adamson".

Planning and VPDES Permit Manager, Piedmont Regional Office

January 11, 2016
Date

A. LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning with the permit's effective date and lasting until the permit's expiration date the permittee is authorized to discharge from Outfall 001 – Wastewater Treatment Plant Discharge.

a. Such discharges shall be limited and monitored at Outfall 001 as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	MONTHLY AVERAGE		WEEKLY AVERAGE	DAILY MINIMUM	DAILY MAXIMUM		FREQUENCY	SAMPLE TYPE
	mg/L*	kg/d*			mg/L*	kg/d*		
001 Flow (MGD)	NL		NA	NA	NL		Continuous	Totalizing, Indicating, and Recording
002 pH (standard units)	NA	NA	NA	6.0	9.0	NA	1 per Day	Grab
003 Five Day Biochemical Oxygen Demand (BOD ₅)	6.0	28	NA	NA	8.0 ⁽⁸⁾	38	1 per Month	24HC
004 Total Suspended Solids (TSS)	5.0	24	NA	NA	7.5 ⁽⁸⁾	35	1 per Week	24HC
006 Fecal Coliform (MPN/100 mL) ⁽¹⁾	NL	NA	NA	NA	400	NA	1 per 6 Months	Grab
120 <i>E. coli</i> (MPN/100mL) ⁽²⁾	126 (Geometric Mean)	NA	NA	NA	NA	NA	1 per Week	Grab
007 Dissolved Oxygen	NA	NA	NA	5.0	NA	NA	3 per Week	Grab
012 Total Phosphorus ⁽⁹⁾	0.30	NA	NA	NA	0.50	NA	1 per 3 Months	24HC
794 Total Phosphorus, Calendar Year Average ^{(4), (9)}	0.1	NA	NA	NA	NA	185 kg/year	1 per Year	Calculated
806 Total Phosphorus, year-to-Date ^{(4), (9)}	NL	NA	NA	NA	NA	NL	1 per Month	Calculated

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	MONTHLY AVERAGE		WEEKLY AVERAGE	DAILY MINIMUM	DAILY MAXIMUM		FREQUENCY	SAMPLE TYPE
	mg/L *	kg/d*			mg/L *	kg/d*		
792 Total Nitrogen, Calendar Year Average ^{(4), (5), (9)}	6.0	NA	NA	NA	NA	NA	1 per Year	Calculated
805 Total Nitrogen, year-to-Date ^{(4), (5), (9)}	NL	NA	NA	NA	NA	NA	1 per Month	Calculated
039 Ammonia Nitrogen	2.0	9.5	NA	NA	8.0	38	1 per 2 Months	24HC
071 Settleable Solids (ml/L)	0.1	NA	NA	NA	NL	NA	1 per Month	24HC
196 Zinc, Total Recoverable (mg/l)	0.19 ⁽¹⁰⁾	NA	NA	NA	0.19 ⁽¹⁰⁾	NA	1 per 6 Months	Grab
801 Oil & Grease (as HEM)	8.0	38	NA	NA	14	66	1 per 2 Months	Grab
145 Chlorides (mg/L)	NL	NA	NA	NA	NL	NA	1 per Month	Grab
720 Toxicity, Chronic (TU _C)[<i>C.dubia</i>] ^{(3),(6),(7)} (Interim)	NA	NA	NA	NA	NL	NA	1 per 3 Months	24 HC
720 Toxicity, Chronic (TU _C)[<i>C.dubia</i>] ^{(3),(6),(7)} (Final)	NA	NA	NA	NA	1.12	NA	1 per 3 Months	24 HC

The design flow of this treatment facility is 1.25 MGD. Totalizing, indicating, and recording equipment (TIRE) shall be used to monitor flows.

* = unless otherwise noted.

NL = No Limit, monitoring and reporting required.

NA = Not Applicable.

24HC = 24 hour composite.

HEM = n-hexane extractable material.

1 per 3 Months = Once per complete calendar quarter, in accordance with the following schedule: January 1 – March 31, to be reported on the DMR due April 10; April 1 – June 30, to be reported on the DMR due July 10; July 1 – September 30, to be reported on the DMR due October 10; and October 1 – December 31, to be reported on the DMR due January 10.

1 per 6 Months = Once per six months, in accordance with the following schedule: January 1- June 30, to be reported on the DMR due July 10; and July 1 – December 31, to be reported on the DMR due January 10.

1 per Year = Once per complete calendar year, in accordance with the following schedule: January 1 – December 31, to be reported on the DMR due January 10 following each applicable year.

- (1) Fecal Coliform (MPN/100 mL) is expressed as the Geometric Mean. Maximum of 400 CFU/100mL at any time.
 - (2) See Part I.C.14 Additional TRC Limitations and Monitoring Requirements if alternative disinfection (chlorine) is used.
 - (3) See Part I.D for Schedule of Compliance for effluent limitations.
 - (4) See Special Condition Part I.C.11 and 12 for nutrient reporting requirements.
 - (5) Total Nitrogen, which is the sum of Total Kjeldahl Nitrogen and Nitrates plus Nitrites, shall be derived from the results of those tests.
 - (6) See Part I.E. for limit requirements for Whole Effluent Toxicity.
 - (7) See Part I.F. for monitoring requirements for Whole Effluent Toxicity.
 - (8) No more than 5% of the individual samples collected during the reporting month shall exceed the daily maximum effluent limit.
 - (9) In addition to any Total Nitrogen or Total Phosphorus concentration limits (or monitoring requirements without associated limits) listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040089, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.
 - (10) The limitation is expressed in two significant figures.
- b. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- c. Effluent samples shall be taken from Outfall 001.

A. LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning with the permit's effective date and lasting until the permit's expiration date the permittee is authorized to discharge from Outfall 002 and 003 (stormwater drainage network and bioretention basin).

a. This discharge shall be limited and monitored at Outfall 002 and 003 as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY AVERAGE	WEEKLY AVERAGE	DAILY MINIMUM	DAILY MAXIMUM	FREQUENCY	SAMPLE TYPE
001 Flow (MG)	NA	NA	NA	NL	1 per 6 Months	Estimate
002 pH (Standard Units)	NA	NA	NL	NL	1 per 6 Months	Grab
003 BOD ₅ (mg/L)	NA	NA	NA	NL	1 per 6 Months	Grab
004 Total Suspended Solids (mg/L)	NA	NA	NA	NL	1 per 6 Months	Grab
120 <i>E. coli</i> (MPN/100 mL)	NA	NA	NA	NL	1 per 6 Months	Grab
012 Total Phosphorus (mg/L)	NA	NA	NA	NL	1 per 6 Months	Grab
039 Ammonia Nitrogen (mg/L)	NA	NA	NA	NL	1 per 6 Months	Grab
013 Total Nitrogen (mg/L)	NA	NA	NA	NL	1 per 6 Months	Grab
500 Oil & Grease (mg/L)	NA	NA	NA	NL	1 per 6 Months	Grab

NL = No Limit, monitoring and reporting required.

NA = Not Applicable.

Estimate = Estimate the total volume discharged during the storm event.

1 per 6 Months = Once per complete six calendar months, in accordance with the following schedule: January 1 – June 30, to be reported on the DMR due July 10; July 1- December 31, to be reported on the DMR due January 10.

- b. There shall be no discharge of waste, garbage, or floating debris in other than trace amounts.
- c. See Stormwater Management Conditions specified in Part I.B. for additional requirements.
- d. To demonstrate compliance with Part I.A.2, samples shall be taken at Outfall 002 and 003.
- e. In addition to the analytical results, the permittee shall provide the date and duration (in hours) of the storm event(s) sampled; rainfall total (in inches) of the storm event that generated the sampled runoff; and the duration between the storm event sampled and the end of the previous measurable storm event (a "measurable storm event" is defined as a storm event that results in an actual discharge from the site).

B. STORMWATER MANAGEMENT CONDITIONS

1. Stormwater Management Evaluation

- a. The Stormwater Pollution Prevention Plan (SWPPP), which is to be developed and maintained in accordance with subsection 3 below, shall have a goal of reducing pollutants discharged from all the regulated stormwater outfalls. One goal of the SWPPP shall place emphasis on reducing, to the maximum extent practicable, the following pollutants in the outfalls noted below.

OUTFALL	POLLUTANTS	COMPARATIVE VALUE
002 and 003	<i>E. coli</i>	126 MPN/100mL (geometric mean)

- b. The effectiveness of the SWPPP will be evaluated via the required monitoring for all parameters listed in Part I A of this permit for the regulated stormwater outfalls, including the specific pollutants noted above. Monitoring results that are above the comparative value for the specific pollutants above will justify the need to reexamine the effectiveness of the SWPPP and any best management practices (BMPs) being utilized for the affected outfalls. In addition, the permittee shall amend the SWPPP whenever there is a change in the facility or its operation that materially increases the potential for activities to result in a discharge of significant amounts of pollutants.

2. General Stormwater Special Conditions

a. Sample Type

For all stormwater monitoring required in Part I.A.2 or other applicable sections of this permit, a minimum of one grab sample shall be taken. Unless otherwise specified, all such samples shall be collected from the discharge resulting from a storm event that occurs at least 72 hours from the previously measurable storm event (a "measurable storm event" is defined as a storm event that results in an actual discharge from the site). The required 72-hour storm event interval is waived where the permittee documents that less than a 72-hour interval is representative for local storm events during the season when sampling is being conducted. The grab sample shall be taken during the first 30 minutes of the discharge. In the case of snowmelt, the monitoring must be performed at a time when a measurable discharge occurs at the site. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the permittee shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable. If stormwater discharges associated with industrial activity commingle with process or non-process water, then where practicable permittees must attempt to sample the stormwater discharge before it mixes with the non-stormwater discharge.

Sampling Methodology for Outfall 002 and 003

Due to the nature of the effluent discharged at these outfalls (contaminated stormwater associated with a regulated industrial activity), the following shall be required when obtaining samples required by Part I.A.2 of this permit:

In the event that sampling of an outfall is not possible due to the absence of effluent flow during a particular testing period, the permittee shall provide written notification to DEQ with the DMR for the month following the period in which samples were to be collected.

b. Recording of Results

For each measurement or sample taken pursuant to the storm event monitoring requirements of this permit, the permittee shall record and report with the Discharge Monitoring Reports (DMRs) the following information:

- (1) The date and duration (in hours) of the storm event(s) sampled;
- (2) The rainfall total (in inches) of the storm event which generated the sampled discharge; and
- (3) The duration between the storm event sampled and the end of the previous measurable storm event.

c. Sampling Waiver

When a permittee is unable to collect stormwater samples required in Part I A.2 or other applicable sections of this permit within a specified sampling period due to adverse climatic conditions, the permittee shall collect a substitute sample from a separate qualifying event in the next period and submit these data along with the data for the routine sample in that period. Adverse weather conditions that may prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

d. Representative Discharges

If the facility has two or more outfalls that discharge substantially identical effluents, based on similarities of the industrial activities, significant materials, size of drainage areas, and stormwater management practices occurring within the drainage areas of the outfalls, the permittee may conduct monitoring on the effluent of just one of the outfalls and report that the observations also apply to the substantially identical outfall(s). The substantially identical outfall monitoring provisions apply to quarterly visual monitoring, benchmark monitoring and impaired waters monitoring. The substantially identical outfall monitoring provisions are not available for numeric effluent limits monitoring.

The permittee shall include the following information in the SWPPP:

- (1) The locations of the outfalls;
- (2) Why the outfalls are expected to discharge substantially identical effluents, including evaluation of monitoring data, where available; and,
- (3) Estimates of the size of the drainage area (in square feet) for each of the outfalls.

e. Quarterly Visual Examination of Stormwater Quality.

(1) The permittee must perform and document a quarterly visual examination of a stormwater discharge associated with industrial activity from each outfall, except discharges exempted below. The examination(s) must be made at least once in each of the following three-month periods: January through March, April through June, July through September, and October through December. The visual examination shall be made during normal working hours. If no storm event resulted in runoff from the facility during a monitoring quarter, the permittee is excused from visual monitoring for that quarter provided that documentation is included with the monitoring records indicating that no runoff occurred. The documentation must be signed and certified in accordance with Part II K of this permit.

(2) Visual examinations must be made of samples collected in accordance with Part I.B.2.a. The examination must document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. The examination must be conducted in a well-lit area. No analytical tests are required to be performed on the samples

(3) The visual examination reports must be maintained on-site with the Stormwater Pollution Prevention Plan (SWPPP). The report must include the outfall location, the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the stormwater discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution), and probable sources of any observed stormwater contamination.

f. Authorized Non-Stormwater Discharges.

- (1) The following non-stormwater discharges are authorized by this permit:
 - (a) Discharges from fire fighting activities;
 - (b) Fire hydrant flushings;

- (c) Potable water including water line flushings;
- (d) Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
- (e) Irrigation drainage;
- (f) Landscape watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
- (g) Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
- (h) Routine external building washdown which does not use detergents;
- (i) Uncontaminated ground water or spring water;
- (j) Foundation or footing drains where flows are not contaminated with process materials; and
- (k) Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but NOT intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

(2) All other non-stormwater discharges are not authorized and shall either be eliminated or covered under a separate VPDES permit.

g. Releases of Hazardous Substances or Oil in Excess of Reportable Quantities.

The discharge of hazardous substances or oil in the stormwater discharge(s) from the facility shall be prevented or minimized in accordance with the stormwater pollution prevention plan for the facility. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill. This permit does not relieve the permittee of the reporting requirements of 40 CFR 110, 40 CFR 117 and 40 CFR 302 or § 62.1-44.34:19 of the Code of Virginia. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 40 CFR 117 or 40 CFR 302 occurs during a 24-hour period:

- (1) The permittee is required to notify the DEQ in accordance with the requirements of Part II G as soon as he or she has knowledge of the discharge;
- (2) Where a release enters a municipal separate storm sewer system (MS4), the permittee shall also notify the owner or the MS4; and
- (3) The stormwater pollution prevention plan required by this permit shall be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan shall be modified where appropriate.

h. Water Quality Protection

The discharges authorized by this permit shall be controlled as necessary to meet applicable water quality standards. DEQ expects that compliance with the conditions in this permit will control discharges as necessary to meet applicable water quality standards

i. Corrective actions

(1) Data exceeding benchmark concentration values.

(a) If the benchmark monitoring result exceeds the benchmark concentration value for that parameter, the permittee shall review the SWPPP and modify it as necessary to address any deficiencies that caused the exceedance. Revisions to the SWPPP shall be completed within 30 days after an exceedance is discovered. When control measures need to be modified or added (distinct from regular preventive maintenance of existing control measures described in Part I.B.3.c, implementation shall be completed before the next anticipated storm event if possible, but no later than 60 days after the exceedance is discovered, or as otherwise provided or approved by the DEQ Piedmont Regional Office. In cases where construction is necessary to implement control measures, the permittee shall include a schedule in the SWPPP that provides for the completion of the control measures as expeditiously as practicable, but no later than

three years after the exceedance is discovered. Where a construction compliance schedule is included in the SWPPP, the plan shall include appropriate nonstructural and temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure. Any control measure modifications shall be documented and dated, and retained with the SWPPP, along with the amount of time taken to modify the applicable control measure or implement additional control measures.

(b) Natural background pollutant levels. If the concentration of a pollutant exceeds a benchmark concentration value, and the permittee determines that exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background, corrective action is not required provided that:

- (i) The concentration of the benchmark monitoring result is less than or equal to the concentration of that pollutant in the natural background;
- (ii) The permittee documents and maintains with the SWPPP the supporting rationale for concluding that benchmark exceedances are in fact attributable solely to natural background pollutant levels. The supporting rationale shall include any data previously collected by the facility or others (including literature studies) that describe the levels of natural background pollutants in the facility's stormwater discharges; and
- (iii) The permittee notifies the DEQ Piedmont Regional Office on the DMR that the benchmark exceedances are attributable solely to natural background pollutant levels.

Natural background pollutants include those substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on the facility's site, or pollutants in run-on from neighboring sources which are not naturally occurring.

(2) Corrective actions. The permittee shall take corrective action whenever:

- (a) Routine facility inspections, comprehensive site compliance evaluations, inspections by local, state or federal officials, or any other process, observation or event result in a determination that modifications to the stormwater control measures are necessary to meet the permit requirements; or
- (b) There is any exceedance of an effluent limitation (including coal pile runoff), or TMDL wasteload allocation; or
- (c) The DEQ Piedmont Regional Office determines, or the permittee becomes aware, that the stormwater control measures are not stringent enough for the discharge to meet applicable water quality standards.

The permittee shall review the SWPPP and modify it as necessary to address any deficiencies. Revisions to the SWPPP shall be completed within 30 days following the discovery of the deficiency. When control measures need to be modified or added (distinct from regular preventive maintenance of existing control measures described in Part I.B.3.c, implementation shall be completed before the next anticipated storm event if possible, but no later than 60 days after the deficiency is discovered, or as otherwise provided or approved by the DEQ Piedmont Regional Office. In cases where construction is necessary to implement control measures, the permittee shall include a schedule in the SWPPP that provides for the completion of the control measures as expeditiously as practicable, but no later than three years after the deficiency is discovered. Where a construction compliance schedule is included in the SWPPP, the plan shall include appropriate nonstructural and/or temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure. The amount of time taken to modify a control measure or implement additional control measures shall be documented in the SWPPP.

Any corrective actions taken shall be documented and retained with the SWPPP. Reports of corrective actions shall be signed in accordance with Part II K.

(3) Follow-up reporting. If at any time monitoring results indicate that discharges from the facility exceed an effluent limitation or a TMDL wasteload allocation, or the DEQ Piedmont Regional Office determines that discharges from the facility are causing or contributing to an exceedance of a water quality standard, immediate steps shall be taken to eliminate the exceedances in accordance with the above Part I.B.2.i.2. Within 30 calendar days of implementing the relevant corrective action(s) an exceedance report shall be submitted to the DEQ Piedmont Regional Office. The following

information shall be included in the report: permit number; facility name, address and location; receiving water; monitoring data from this event; an explanation of the situation; description of what has been done and the intended actions (should the corrective actions not yet be complete) to further reduce pollutants in the discharge; and an appropriate contact name and phone number.

j. Additional Requirements for Salt Storage.

Storage piles of salt or piles containing salt used for deicing or other commercial or industrial purposes shall be enclosed or covered to prevent exposure to precipitation. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. All salt storage piles shall be located on an impervious surface. All runoff from the pile, and/or runoff that comes in contact with salt, including under drain systems, shall be collected and contained within a bermed basin lined with concrete or other impermeable materials, or within an underground storage tank(s), or within an above ground storage tank(s), or disposed of through a sanitary sewer (with the permission of the treatment facility). A combination of any or all of these methods may be used. In no case shall salt contaminated stormwater be allowed to discharge directly to the ground or to state waters.

3. Stormwater Pollution Prevention Plan

Refer to Part I.B.4 for sector-specific stormwater management requirements.

A stormwater pollution prevention plan (SWPPP) was required to be developed and implemented for the facility under the previous permit. The existing stormwater pollution prevention plan shall be reviewed and modified, as appropriate, to conform to the requirements of this section. Permittees shall implement the provisions of the stormwater pollution prevention plan as a condition of this permit.

The stormwater pollution prevention plan requirements of this permit may be fulfilled, in part, by incorporating by reference other plans or documents such as a spill prevention control and countermeasure (SPCC) plan developed for the facility under Section 311 of the Clean Water Act, or best management practices (BMP) programs otherwise required for the facility provided that the incorporated plan meets or exceeds the plan requirements of Part I.B.3.b (Contents of the Plan). All plans incorporated by reference into the stormwater pollution prevention plan become enforceable under this permit. If a plan incorporated by reference does not contain all of the required elements of the SWPPP of Part I.B.3.b, the permittee shall develop the missing SWPPP elements and include them in the required plan.

a. Deadlines for Plan Preparation and Compliance

(1) The facility shall update and implement the plan as expeditiously as practicable, but not later than 90 days from the effective date of the permit.

(2) Measures That Require Construction. In cases where construction is necessary to implement measures required by the plan, the plan shall contain a schedule that provides compliance with the plan as expeditiously as practicable, but no later than 3 years after the effective date of this permit. Where a construction compliance schedule is included in the plan, the schedule shall include appropriate nonstructural and/or temporary controls to be implemented in the affected portion(s) of the facility prior to completion of the permanent control measure.

b. Contents of the Plan.

The contents of the SWPPP shall comply with the requirements listed below and those in Part I.B.4. The plan shall include, at a minimum, the following items:

(1) Pollution Prevention Team. The plan shall identify the staff individuals by name or title that comprises the facility's stormwater pollution prevention team. The pollution prevention team is responsible for assisting the facility or plant manager in developing, implementing, maintaining,

revising, and ensuring compliance with the facility's SWPPP. Specific responsibilities of each staff individual on the team shall be identified and listed.

(2) Site Description. The plan shall include the following:

- (a) Activities at the Facility. A description of the nature of the industrial activities at the facility.
- (b) General Location Map. A general location map (e.g., USGS quadrangle or other map) with enough detail to identify the location of the facility and the receiving waters within one mile of the facility.
- (c) Site Map. A site map identifying the following:
 - (i) The size of the property (in acres);
 - (ii) The location and extent of significant structures and impervious surfaces (roofs, paved areas and other impervious areas);
 - (iii) Locations of all stormwater conveyances including ditches, pipes, swales, and inlets, and the directions of stormwater flow (use arrows to show which ways stormwater will flow);
 - (iv) Locations of all existing structural and source control BMPs;
 - (v) Locations of all surface water bodies, including wetlands;
 - (vi) Locations of potential pollutant sources identified under Part I.B.3.b(3);
 - (vii) Locations where significant spills or leaks identified under Part I.B.3.b(4) have occurred;
 - (viii) Locations of the following activities where such activities are exposed to precipitation: fueling stations; vehicle and equipment maintenance and/or cleaning areas; loading/unloading areas; locations used for the treatment, storage or disposal of wastes; liquid storage tanks; processing and storage areas; access roads, rail cars and tracks; transfer areas for substances in bulk; and machinery;
 - (ix) Locations of stormwater outfalls and an approximate outline of the area draining to each outfall, and location of municipal storm sewer systems, if the stormwater from the facility discharges to them;
 - (x) Location and description of all non-stormwater discharges;
 - (xi) Location of any storage piles containing salt used for deicing or other commercial or industrial purposes; and
 - (xii) Locations and sources of runoff to the site from adjacent property where the runoff contains significant quantities of pollutants. The permittee shall include an evaluation with the SWPPP of how the quality of the stormwater running onto the facility impacts the facility's stormwater discharges.
- (d) Receiving Waters and Wetlands. The name of all surface waters receiving discharges from the site, including intermittent streams, dry sloughs, and arroyos. Provide a description of wetland sites that may receive discharges from the facility. If the facility discharges through a municipal separate storm sewer system (MS4), identify the MS4 operator, and the receiving water to which the MS4 discharges.

(3) Summary of Potential Pollutant Sources. The plan shall identify each separate area at the facility where industrial materials or activities are exposed to stormwater. Industrial materials or activities include, but are not limited to: material handling equipment or activities, industrial machinery, raw materials, industrial production and processes, intermediate products, byproducts, final products, and waste products. Material handling

activities include but are not limited to the storage, loading and unloading, transportation, disposal or conveyance of any raw material, intermediate product, final product or waste product. For each separate area identified, the description shall include:

- (a) Activities in Area. A list of the activities (e.g., material storage, equipment fueling and cleaning, cutting steel beams); and
- (b) Pollutants. A list of the associated pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, cleaning solvents, etc.) for each activity. The pollutant list shall include all significant materials handled, treated, stored or disposed that have been exposed to stormwater in the three years prior to the date this SWPPP was prepared or amended. The list shall include any hazardous substances or oil at the facility.

(4) Spills and Leaks. The SWPPP shall clearly identify areas where potential spills and leaks that can contribute pollutants to stormwater discharges can occur and their corresponding outfalls. The plan shall include a list of significant spills and leaks of toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance during the three-year period prior to the date this SWPPP was prepared or amended. The list shall be updated if significant spills or leaks occur in exposed areas of the facility during the term of the permit. Significant spills and leaks include releases of oil or hazardous substances in excess of reportable quantities, and may also include releases of oil or hazardous substances that are not in excess of reporting requirements.

(5) Sampling Data. The plan shall include a summary of existing discharge sampling data taken at the facility. The summary shall include at a minimum, any data collected during the previous permit term.

(6) Stormwater Controls.

(a) Control measures shall be implemented for all the areas identified in Part I B 3 b (3) (Summary of Potential Pollutant Sources) to prevent or control pollutants in stormwater discharges from the facility. Regulated stormwater discharges from the facility include stormwater runoff that commingles with stormwater discharges associated with industrial activity at the facility. The SWPPP shall describe the type, location and implementation of all control measures for each area where industrial materials or activities are exposed to stormwater. Selection of control measures shall take into consideration:

- (i) That preventing stormwater from coming into contact with polluting materials is generally more effective, and less costly, than trying to remove pollutants from stormwater;
- (ii) Control measures generally shall be used in combination with each other for most effective water quality protection;
- (iii) Assessing the type and quantity of pollutants, including their potential to impact receiving water quality, is critical to designing effective control measures;
- (iv) That minimizing impervious areas at the facility can reduce runoff and improve groundwater recharge and stream base flows in local streams (however, care must be taken to avoid ground water contamination);
- (v) Flow attenuation by use of open vegetated swales and natural depressions can reduce in-stream impacts of erosive flows;
- (vi) Conservation or restoration of riparian buffers will help protect streams from stormwater runoff and improve water quality; and
- (vii) Treatment interceptors (e.g., swirl separators and sand filters) may be appropriate in some instances to minimize the discharge of pollutants.

(b) Nonnumeric technology-based effluent limits. The permittee shall implement the following types of control measures to prevent and control pollutants in the stormwater discharges from the facility, unless it can be demonstrated and documented that such controls are not relevant to the discharges (e.g., there are no storage piles containing salt).

- (i) Good Housekeeping. The permittee shall keep clean all exposed areas of the facility that are potential sources of pollutants to stormwater discharges. Typical problem areas include areas around trash containers, storage areas, loading docks, and vehicle fueling and maintenance areas. The plan shall include a schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers.
- (ii) Eliminating and Minimizing Exposure. To the extent practicable, manufacturing, processing and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) shall be located inside, or protected by a storm-resistant covering to prevent exposure to rain, snow, snowmelt, and runoff. Note: Eliminating exposure at all industrial areas may make the facility eligible for the "Conditional Exclusion for No Exposure" provision of 9VAC25-31-120 E, thereby eliminating the need to have a permit.
- (iii) Preventive Maintenance. The permittee shall have a preventive maintenance program that includes regular inspection, testing, maintenance and repairing of all industrial equipment and systems to avoid situations that could result in leaks, spills and other releases of pollutants in stormwater discharge from the facility. This program is in addition to the specific control measure maintenance required under Part I B 3 c (Maintenance of control measures).
- (iv) Spill Prevention and Response Procedures. The plan shall describe the procedures that will be followed for preventing and responding to spills and leaks, including:
 - (A) Preventive measures, such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
 - (B) Response procedures, including notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing and cleaning up spills. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable RCRA regulations at 40 CFR Part 264 and 40 CFR Part 265. Employees who may cause, detect or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals shall be a member of the Pollution Prevention Team;
 - (C) Procedures for plainly labeling containers (e.g., "used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur; and
 - (D) Contact information for individuals and agencies that must be notified in the event of a spill shall be included in the SWPPP, and in other locations where it will be readily available.
- (v) Routine Facility Inspections. Facility personnel who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and who can also evaluate the

effectiveness of control measures shall regularly inspect all areas of the facility where industrial materials or activities are exposed to stormwater. These inspections are in addition to, or as part of, the comprehensive site evaluation required under Part I B 3 d. At least one member of the Pollution Prevention Team shall participate in the routine facility inspections.

The inspection frequency shall be specified in the plan based upon a consideration of the level of industrial activity at the facility, but shall be a minimum of quarterly unless more frequent intervals are specified elsewhere in the permit or written approval is received from the Department for less frequent intervals. At least once each calendar year, the routine facility inspection must be conducted during a period when a stormwater discharge is occurring.

Any deficiencies in the implementation of the SWPPP that are found shall be corrected as soon as practicable, but not later than within 30 days of the inspection, unless permission for a later date is granted in writing by the Director. The results of the inspections shall be documented in the SWPPP, and shall include at a minimum:

- (A) The inspection date and time;
 - (B) The name and signature of the inspector(s);
 - (C) Weather information and a description of any discharges occurring at the time of the inspection;
 - (D) Any previously unidentified discharges of pollutants from the site;
 - (E) Any control measures needing maintenance or repairs;
 - (F) Any failed control measures that need replacement;
 - (G) Any incidents of noncompliance observed; and
 - (H) Any additional control measures needed to comply with the permit requirements.
- (vi) Employee Training. The permittee shall implement a stormwater employee training program for the facility. The SWPPP shall include a schedule for all types of necessary training, and shall document all training sessions and the employees who received the training. Training shall be provided for all employees who work in areas where industrial materials or activities are exposed to stormwater, and for employees who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel, etc.). The training shall cover the components and goals of the SWPPP, and include such topics as spill response, good housekeeping, material management practices, control measure operation and maintenance, etc. The SWPPP shall include a summary of any training performed.
- (vii) Sediment and Erosion Control. The plan shall identify areas at the facility that, due to topography, land disturbance (e.g., construction, landscaping, site grading), or other factors, have a potential for soil erosion. The permittee shall identify and implement structural, vegetative, and stabilization control measures to prevent or control on-site and off-site erosion and sedimentation. Flow velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel if the flows would otherwise create erosive conditions.
- (viii) Management of Runoff. The plan shall describe the stormwater runoff management practices (i.e., permanent structural control measures) for the facility. These types of control measures are typically used to divert,

infiltrate, reuse, or otherwise reduce pollutants in stormwater discharges from the site.

Structural control measures may require a separate permit under § 404 of the CWA and the Virginia Water Protection Permit Program Regulation (9 VAC 25-210) before installation begins.

- (ix) Dust suppression and vehicle tracking of industrial materials. The permittee shall implement control measures to minimize the generation of dust and off-site tracking of raw, final, or waste materials. Stormwater collected on site may be used for the purposes of dust suppression or for spraying stockpiles. Potable water, well water and uncontaminated reuse water may also be used for this purpose. There shall be no direct discharge to surface waters from dust suppression activities or as a result of spraying stockpiles.

c. Maintenance.

The SWPPP shall include a description of procedures and a regular schedule for preventive maintenance of all control measures, and shall include a description of the back-up practices that are in place should a runoff event occur while a control measure is off-line. The effectiveness of nonstructural control measure shall also be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

All control measures identified in the SWPPP shall be maintained in effective operating condition and shall be observed at least annually during active operation (i.e., during a stormwater runoff event) to ensure that they are functioning correctly. Where discharge locations are inaccessible, nearby downstream locations shall be observed. The observations shall be documented in the SWPPP.

If site inspections required by Part I B 3 b(6)(b)(v) (Routine Facility Inspections) or Part I B 3 d (Comprehensive Site Compliance Evaluation) identify control measures that are not operating effectively, repairs or maintenance shall be performed before the next anticipated storm event. If maintenance prior to the next anticipated storm event is not possible, maintenance shall be scheduled and accomplished as soon as practicable. In the interim, back-up measures shall be employed and documented in the SWPPP until repairs or maintenance is complete. Documentation shall be kept with the SWPPP of maintenance and repairs of control measures, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair or replacement, date(s) for repairs, date(s) that the control measure(s) returned to full function, and the justification for any extended maintenance or repair schedules.

d. Comprehensive Site Compliance Evaluation.

The permittee shall conduct comprehensive site compliance evaluations at least once a year. The evaluations shall be done by qualified personnel who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and who can also evaluate the effectiveness of BMPs. The personnel conducting the evaluations may be either facility employees or outside constituents hired by the facility.

- (1) Scope of the Compliance Evaluation. Evaluations shall include all areas where industrial materials or activities are exposed to stormwater, as identified in Part I.B.3.b(3). The personnel shall evaluate:
 - (a) Industrial materials, residue or trash that may have or could come into contact with stormwater;
 - (b) Leaks or spills from industrial equipment, drums, barrels, tanks or other containers that have occurred within the past three years;

- (c) Off-site tracking of industrial or waste materials or sediment where vehicles enter or exit the site;
- (d) Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas;
- (e) Evidence of, or the potential for, pollutants entering the drainage system;
- (f) Evidence of pollutants discharging to surface waters at all facility outfalls, and the condition of and around the outfall, including flow dissipation measures to prevent scouring;
- (g) Review of training performed, inspections completed, maintenance performed, quarterly visual examinations, and effective operation of BMPs;
- (h) Results of both visual and any analytical monitoring done during the past year shall be taken into consideration during the evaluation.

- (2) Based on the results of the evaluation, the SWPPP shall be modified as necessary (e.g., show additional controls on the map required by Part I B 3 b(2)(c); revise the description of controls required by Part I B 3 b(6) to include additional or modified control measures designed to correct problems identified). Revisions to the SWPPP shall be completed within 30 days following the evaluation, unless permission for a later date is granted in writing by the Director. If existing control measures need to be modified or if additional control measures are necessary, implementation shall be completed before the next anticipated storm event, if practicable, but not more than 60 days after completion of the comprehensive site evaluation, unless permission for a later date is granted in writing by the Department;
- (3) Compliance Evaluation Report. A report shall be written summarizing the scope of the evaluation, name(s) of personnel making the evaluation, the date of the evaluation, and all observations relating to the implementation of the SWPPP, including elements stipulated in Part I.B.3.d (1) (a) through (h) above. Observations shall include such things as: the location(s) of discharges of pollutants from the site; location(s) of previously unidentified sources of pollutants; location(s) of control measures that need to be maintained or repaired; location(s) of failed control measures that need replacement; and location(s) where additional control measures are needed. The report shall identify any incidents of noncompliance that were observed. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the SWPPP and this permit. The report shall be signed in accordance with Part II K and maintained with the SWPPP.
- (4) Where compliance evaluation schedules overlap with routine inspections required under Part I.B.3 b(6)(b)(v) (Routine facility inspections), the annual compliance evaluation may be used as one of the routine inspections

e. Signature and Plan Review.

- (1) Signature and location. The SWPPP, including revisions to the SWPPP to document any corrective actions taken as required by Part 1 B 2 (i) (Corrective Actions), shall be signed in accordance with Part II K (*Signatory Requirements in Conditions Applicable to All VPDES Permits*), dated, and retained on-site at the facility covered by this permit in accordance with Part II B 2 (*Records in Conditions Applicable to All VPDES Permits*). All other changes to the SWPPP, and other permit

compliance documentation, shall be signed and dated by the person preparing the change or documentation.

- (2) Availability. The permittee shall retain a copy of the current SWPPP required by this permit at the facility, and it shall be immediately available to the Department, EPA or the operator of an MS4 receiving discharges from the site at the time of an onsite inspection or upon request.
- (3) Required Modifications. The permittee shall modify the SWPPP whenever necessary to address any corrective actions required by Part I B 2 (i) (1) (Data exceeding benchmark concentration values) or Part I B 2 (i) (Corrective actions). Changes to the SWPPP shall be made in accordance with the corrective action deadlines in Part I B 2 (i) (1) and Part I B 2 (i), and shall be signed and dated in accordance with Part II K (Signatory Requirements).

The Director may notify the permittee at any time that the SWPPP, control measures, or other components of the facility's stormwater program do not meet one or more of the requirements of this permit. The notification shall identify specific provisions of the permit that are not being met, and may include required modifications to the stormwater program, additional monitoring requirements, and special reporting requirements. The permittee shall make any required changes to the SWPPP within 60 days of receipt of such notification, unless permission for a later date is granted in writing by the Director, and shall submit a written certification to the Director that the requested changes have been made.

f. Maintaining an Updated SWPPP.

- (1) The permittee shall review and amend the SWPPP as appropriate whenever:
 - (a) There is construction or a change in design, operation, or maintenance at the facility that has a significant effect on the discharge, or the potential for the discharge, of pollutants from the facility;
 - (b) Routine inspections or compliance evaluations determine that there are deficiencies in the BMPs;
 - (c) Inspections by local, state, or federal officials determine that modifications to the SWPPP are necessary;
 - (d) There is a spill, leak or other release at the facility; or
 - (e) There is an unauthorized discharge from the facility.
- (2) SWPPP modifications shall be made within 30 calendar days after discovery, observation or event requiring a SWPPP modification. Implementation of new or modified control measures (distinct from regular preventive maintenance of existing control measures described in Part I B 3 b(6)(b)(iii) (Preventative Maintenance) shall be initiated before the next storm event if possible, but no later than 60 days after discovery, or as otherwise provided or approved by the Director. The amount of time taken to modify a control measure or implement additional control measures shall be documented in the SWPPP.
- (3) If the SWPPP modification is based on a release or unauthorized discharge, include a description and date of the release, the circumstances leading to the release, actions taken in response to the release, and measures to prevent the recurrence of such releases. Unauthorized releases and discharges are subject to the reporting requirements of Part II G of this permit.

4. Sector-Specific SWPPP Requirements

In addition to the requirements of Part I.B.3, the SWPPP shall include, at a minimum, the following items:

Sector U: Food and Kindred Products

a. Site Description.

(1) Site Map. The site map shall identify the locations of the following activities if they are exposed to precipitation/surface runoff: vents/stacks from cooking, drying, and similar operations; dry product vacuum transfer lines; animal holding pens; spoiled product; and broken product container storage areas.

(2) Summary of Potential Pollutant Sources. In addition to food and kindred products processing-related industrial activities, the plan shall also describe application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides, etc.) used on plant grounds.

b. Stormwater Controls.

(1) Routine Facility Inspections. At a minimum, the following areas, where the potential for exposure to stormwater exists, shall be inspected on a monthly basis: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment.

(2) Employee Training. The employee training program shall also address pest control.

5. Facilities in the Chesapeake Bay watershed

(1) Chesapeake Bay TMDL wasteload allocations and Chesapeake Bay TMDL action plans

(a) EPA's Chesapeake Bay TMDL (December 29, 2010) includes wasteload allocations for VPDES permitted industrial stormwater facilities as part of the regulated stormwater aggregate load. EPA used data submitted by Virginia with the Phase I Chesapeake Bay TMDL Watershed Implementation Plan, including the number of industrial stormwater permits per county and the number of urban acres regulated by industrial stormwater permits, as part of their development of the aggregate load. Aggregate loads for industrial stormwater facilities were appropriate because actual facility loading data were not available to develop individual facility wasteload allocations.

Virginia estimated the loadings from industrial stormwater facilities using actual and estimated facility acreage information, and TP, TN, and TSS loading values from the Northern Virginia Planning District Commission (NVPDC) Guidebook for Screening Urban Nonpoint Pollution Management Strategies, prepared for the Metropolitan Washington Council of Governments. Annandale, VA. November, 1979. The loading values used were as follows:

TP - High (80%) imperviousness industrial; 1.5 lb/ac/yr
TN - High (80%) imperviousness industrial; 12.3 lb/ac/yr
TSS - High (80%) imperviousness industrial; 440 lb/ac/yr

The actual facility area information, and the TP, TN and TSS data collected for this permit will be used by DEQ to quantify the nutrient and sediment loads from VPDES permitted industrial stormwater facilities, and will be submitted to EPA to aid them in further refinements to their Chesapeake Bay TMDL model. The loading information will also be used by DEQ to determine any additional load reductions needed for industrial stormwater facilities for the next reissuance of this permit.

(b) Data analysis and Chesapeake Bay TMDL action plans. The permittee shall average the data collected at the facility for each of the pollutants of concern (POC) (e.g., TP, TN and TSS) and

compare the results to the loading values for TP, TN and TSS presented in subdivision 5.1.(a) of this subsection. To calculate the facility loadings, the permittee shall use either the actual annual average rainfall data for the facility location (in inches/year) or the Virginia annual average rainfall of 44.3 inches/year.

The following formula or a site specific, DEQ-approved calculation shall be used to determine the loading value:

$$L = 0.226 \times R \times C \quad \text{Equation (1)}$$

where:

L = the Pollutant of Concern (POC) loading value (lb/acre/year)
C = the POC average concentration of all facility samples (mg/L)
0.226 = unit conversion factor
R = annual runoff (in/yr), calculated as: $R = P \times P_j \times R_v$

where:

P = annual rainfall (in/yr) [use the Virginia annual average of 44.3 in/yr, or site specific annual rainfall for your area of the State]
P_j = the fraction of annual events that produce runoff (usually 0.9)
R_v = the runoff coefficient, which can be expressed as: $R_v = 0.05 + (0.9 \times I_a)$
I_a = the impervious fraction [the ratio of facility impervious area to the total facility area] or,
 $I_a = \text{AREAIMPERVIOUS} / \text{AREATOTAL}$

Substituting in Equation (1):

$$L = 0.226 \times P \times P_j \times (0.05 + (0.9 \times I_a)) \times C \quad \text{Equation (2)}$$

- (c) If the calculated facility loading value for TP, TN or TSS is less than the corresponding loading value presented in subdivision 5.1.(a) of this subsection, then the calculations demonstrating that no reduction is necessary shall be submitted within 90 days from the effective date of this permit. The calculations shall include a site map with the total site area, the areas associated with industrial activity and the total impervious area.

If the calculated facility loading value for TP, TN or TSS exceeds the corresponding loading value presented in subdivision 5.1.(a) of this subsection, then the permittee shall develop and submit a Chesapeake Bay TMDL Action Plan to DEQ for review and approval. The plan shall include a site map with the total site area, the areas associated with industrial activity and the total impervious area. The permittee shall implement the applicable elements of the approved plan over the remaining term of this permit and achieve all the necessary reductions by June 30, 2024. The plan shall be submitted within 90 days from the effective date of this permit. The action plan shall include:

- (i) A determination of the total pollutant load reductions for TP, TN and TSS (as appropriate) necessary to reduce the annual loads from industrial activities. This shall be determined by calculating the difference between the loading values listed in subdivision 5.1.(a) of this subsection, and the average of the sampling data for TP, TN or TSS (as appropriate) for the entire facility. The reduction applies to the total difference calculated for each pollutant of concern;
- (ii) The means and methods, such as management practices and retrofit programs, that will be utilized to meet the required reductions determined in subdivision 5.1.(c)(i) of this subsection, and a schedule to achieve those reductions by June 30, 2024. The schedule should include annual benchmarks to demonstrate the ongoing progress in meeting those reductions;

- (iii) The permittee may consider utilization of any pollutant trading or offset program in accordance with §§ 62.1-44.19:20 through 62.1-44.19:23 of the Code of Virginia, governing trading and offsetting, to meet the required reductions.
- (IV) Permittees required to develop and implement a Chesapeake Bay TMDL Action Plan shall submit an annual report to the department by June 30th of each year describing the progress in meeting the required reductions.

6. Discharges Through a Regulated MS4 to Waters Subject to the Chesapeake Bay TMDL

In addition to the requirements of this permit, any facility with industrial activity discharges through a regulated MS4 that is notified by the MS4 operator that the locality has adopted ordinances to meet the Chesapeake Bay TMDL shall incorporate measures and controls into their SWPPP to comply with applicable local TMDL ordinance requirements

7. Expansion of Facilities That Discharge to Waters Subject to the Chesapeake Bay TMDL

Virginia's Phase I Chesapeake Bay TMDL Watershed Implementation Plan (November 29, 2010), states that the wasteloads from any expansion of an existing permitted facility discharging stormwater in the Chesapeake Bay watershed cannot exceed the nutrient and sediment loadings that were discharged from the expanded portion of the land prior to the land being developed for the expanded industrial activity.

- a. For any industrial activity area expansions (i.e., construction activities, including clearing, grading and excavation activities) that commence on or after the effective date of this permit, the permittee shall document in the SWPPP the information and calculations used to determine the nutrient and sediment loadings discharged from the expanded land area prior to the land being developed, and the measures and controls that were employed to meet the no net increase of stormwater nutrient and sediment loads as a result of the expansion of the industrial activity. Any land disturbance that is exempt from permitting under the VPDES construction stormwater general permit regulation (9VAC25-880) is exempt from this requirement.
- b. The permittee may use the VSMP water quality design criteria to meet the requirements of subdivision a. of this subsection. Under this criterion, the total phosphorus load shall not exceed the greater of:
 - (i) The total phosphorus load that was discharged from the expanded portion of the land prior to the land being developed for the industrial activity; or
 - (ii) 0.41 pounds per acre per year.

Compliance with the water quality design criteria may be determined utilizing the Virginia Runoff Reduction Method or another equivalent methodology approved by the board. Design specifications and pollutant removal efficiencies for specific BMPs can be found on the Virginia Stormwater BMP Clearinghouse website at <http://www.vwrrc.vt.edu/swc>.

- c. The permittee may consider utilization of any pollutant trading or offset program in accordance with §§ 62.1-44.19:20 through 62.1-44.19:23 of the Code of Virginia, governing trading and offsetting, to meet the no net increase requirement.
8. **Form 2F Sampling** The Completed Part VII of Form 2F for Outfall 003 shall be submitted within 1 year of the effective date of the permit.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Operation and Maintenance Manual Requirement

The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and (for sewage treatment plants) Sewage Collection and Treatment Regulations, 9 VAC 25-790.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ Regional Office for review and approval.

The O&M manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, stormwater and sludge samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants characterized in Part I.C.2 that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
- e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
- f. Plan for the management and/or disposal of waste solids and residues.
- g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
- h. List of facility, local and state emergency contacts; and,
- i. Procedures for reporting and responding to any spills/overflows/treatment works upsets.

2. Materials Handling and Storage

Any and all product, materials, industrial wastes, and/or other wastes resulting from the purchase, sale, mining, extraction, transport, preparation, and/or storage of raw or intermediate materials, final product, by-product or wastes, shall be handled, disposed of, and/or stored in such a manner and consistent with Best Management Practices, so as not to permit a discharge of such product, materials, industrial wastes, and/or other wastes to State waters, except as expressly authorized.

3. Licensed Operator Requirement

The permittee shall employ or contract at least one Class II licensed wastewater works operator for the facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations. The permittee shall notify the Department in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

4. Reopeners

This permit may be modified or, alternatively, revoked and reissued:

- a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;
- b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion, or

- upgrade, or
- c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:
- the State Water Control Board adopt new nutrient standards for the waterbody receiving the discharge, including the Chesapeake Bay or its tributaries, or
 - a future water quality regulation or statute requires new or alternative nutrient control.
5. Water Quality Criteria Reopener
Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.
6. Notification Levels
The permittee shall notify the Department as soon as they know or have reason to believe:
- That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - One hundred micrograms per liter (100 µg/l);
 - Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - The level established by the Board.
 - That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that is not limited in this permit, if that discharge will exceed the highest of the following notification levels:
 - Five hundred micrograms per liter (500 µg/l);
 - One milligram per liter (1 mg/L) for antimony;
 - Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
 - The level established by the Board.
7. Compliance Reporting
- The quantification levels (QL) shall be less than or equal to the flowing concentrations:

<u>Effluent Characteristic</u>	<u>Quantification Level</u>
BOD ₅	2 mg/L
TSS	1.0 mg/L
Chlorine (TRC)	0.10 mg/L
Ammonia-N	0.20 mg/L
Oil & Grease	5.0 mg/L
TKN	0.50 mg/L
Zinc, Total Recoverable	0.15 mg/L

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

- Monthly Average** -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data

equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

Daily Maximum -- Compliance with the daily maximum limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each day during the reporting month. The maximum value of these daily averages thus determined shall be reported on the DMR as the Daily Maximum. If all data are below the QL used for the analysis, then the maximum value of the daily averages shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported daily maximum is <QL, then report "<QL" for the quantity. Otherwise use the reported daily average concentrations (including the defined zeros) and corresponding daily flows to determine daily average quantities and report the maximum of the daily average quantities during the reporting mo

- c. **Single Datum** -- Any single datum required shall be reported as "<QL" if it is less than the QL used in the analysis (QL must be less than or equal to the QL listed in a. above). Otherwise the numerical value shall be reported.
- d. **Significant Digits** -- The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

8. Groundwater Monitoring

Within 180 days of the effective date of this permit, the permittee shall submit to the Board's Regional Office an approvable update to the existing groundwater monitoring plan approved in March 1990. The purpose of this plan will be to determine if the system integrity is being maintained and to indicate if activities at the site are resulting in violations of the Board's Ground Water Standards. This plan must be approved by the Piedmont Regional Office. As a minimum, the plan shall contain the following sections:

- A. Introduction
- B. Geologic Information
- C. Monitoring Well Design and Installation
(Borehole and monitoring well records shall be submitted after well installation)
- D. Parameters To Be Monitored and Sampling Frequency
(As a minimum, all parameters will be monitored quarterly for a period of two years)
- E. Sampling Protocol

If new wells are proposed, all monitoring wells shall be installed and monitoring initiated within 60 days of plan approval. Once approved, the plan shall be incorporated into the permit by reference and become an enforceable part of this permit.

If monitoring results indicate that any unit has contaminated the groundwater, the permittee shall submit a corrective action plan within 60 days of being notified by the regional office. The plan shall set forth the steps to be taken by the permittee to ensure that the contamination source is eliminated or that the contaminant plume is contained on the permittee's property. In addition, based on the extent of

contamination, a risk analysis may be required. Once approved, this plan and/or analysis shall become an enforceable part of this permit.

9. Closure Plan

If the permittee plans an expansion or upgrade to replace the existing treatment works, or if facilities are permanently closed, the permittee shall submit to the DEQ Piedmont Regional Office a closure plan for the existing treatment works. The plan shall address the following information as a minimum: Verification of elimination of sources and/or alternate treatment scheme; treatment, removal and final disposition of residual wastewater and solids; removal/demolition/disposal of structures, equipment, piping and appurtenances; site grading, and erosion and sediment control; restoration of site vegetation; access control; fill materials; and proposed land use (post-closure) of the site. The plan should contain proposed dates for beginning and completion of the work. The plan must be approved by the DEQ prior to implementation. Once approved, the plan shall become an enforceable part of this permit and closure shall be implemented in accordance with the approved plan. No later than 14 calendar days following closure completion, the permittee shall submit to the DEQ Piedmont Regional Office written notification of the closure completion date and a certification of closure in accordance with the approved plan.

10. Industrial Concept Engineering Report (CER)

Prior to constructing any wastewater treatment works, the permittee shall submit a Concept Engineering Report (CER) to the DEQ Piedmont Regional Office. DEQ written approval shall be secured prior to constructing any wastewater treatment works. The permittee shall construct the wastewater treatment works in accordance with the approved CER. No later than 14 days following completion of construction of any project for which a CER has been approved, written notification shall be submitted to the DEQ Piedmont Regional Office certifying that, based on an inspection of the project, construction was completed in accordance with the approved CER. The written notification shall be certified by a professional engineer licensed in the Commonwealth of Virginia or signed in accordance with Part II.K of this permit. The installed wastewater treatment works shall be operated to achieve design treatment and effluent concentrations. Approval by the Department of Environmental Quality does not relieve the owner of the responsibility for the correction of design and/or operational deficiencies. Noncompliance with the CER shall be deemed a violation of this permit.

Upon approval of a CER for the installation of nutrient removal technology, DEQ staff shall initiate modification, or alternatively, revocation and reissuance, of this permit, to include annual concentration limits based on the technology proposed in the CER.

11. Nutrient Reporting Calculations

For each calendar month, the DMR shall show the calendar year-to-date average concentration (mg/L) calculated in accordance with the following formulae:

$$AC_{avg-YTD} = (\sum_{(Jan-current\ month)} MC_{avg}) \div (\# \text{ of months})$$

where:

$AC_{avg-YTD}$ = calendar year-to-date average concentration (mg/L) (parameter codes 805 and 806)

MC_{avg} = monthly average concentration (mg/L) as reported on the Nutrient General Permit DMR

The total nitrogen average concentration (mg/L) for each calendar year (AC) shall be shown on the December DMR due January 10th of the following year. These values shall be calculated in accordance with the following formulae:

$$AC_{avg} = (\sum_{(Jan-Dec)} MC_{avg}) \div 12$$

where:

AC_{avg} = calendar year average concentration (mg/L) (parameter codes 792 and 794)

MC_{avg} = monthly average concentration (mg/L) as reported on the Nutrient General Permit DMR

For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used should be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.

For Total Nitrogen (TN), if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

For each calendar month, the DMR shall show the total monthly load (kg) calculated in accordance with the following formulae:

$$ML = ML_{avg} * d$$

where:

ML = total monthly load in kg (Parameter Code 793)

ML_{avg} = monthly average load as reported on DMR (kg/d)

d = number of discharge days in the calendar month

12. Suspension of Concentration Limits for E3/E4 facilities

The annual average concentration limitation for Total Nitrogen and/or Total Phosphorus is suspended during any calendar year in which the facility is considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level, provided that the following conditions have also been met:

- The facility has applied for (or renewed) participation, been accepted, maintained a record of sustained compliance and submitted an annual report according to the program guidelines;
- The facility has demonstrated that they have in place a fully implemented environmental management system (EMS) with an alternative compliance method that includes operation of installed nutrient removal technologies to achieve the annual average concentration limitations, and
- The E3/E4 designation from DEQ and implementation of the EMS has been in effect for the full calendar year.

The annual average concentration limitations for Total Nitrogen and/or Phosphorus, as applicable, are not suspended in any calendar year following a year in which the facility failed to achieve the annual average concentration limitations as required by b. above.

13. Effluent Monitoring Frequencies

If the facility permitted herein is issued a Notice of Violation for any of the parameters listed below, then all of the following effluent monitoring frequencies shall become effective upon written notice from DEQ and remain in effect until permit expiration.

Parameter	Baseline Monitoring Frequency
BOD ₅	1 per Week
TSS	1 per Week
TP	1 per Month
Ammonia	1 per Week
Settable Solids	1 per Week
Zinc, Total Recoverable	1 per Month
<i>E. coli</i>	1 per Week
Oil & Grease	1 per Week
Fecal Coliform	1 per Month
Dissolved Oxygen	1 per Day

No other effluent limitations or monitoring requirements are affected by this special condition.

14. Additional Chlorine Limitations and Monitoring Requirements

If chlorine is chosen as a disinfection method (instead of ultraviolet), effluent Total Residual Chlorine (TRC) shall be limited and monitored, following dechlorination, by the permittee as specified below:

	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Frequency</u>	<u>Sample Type</u>	Quantification Level
TRC (µg/L)	7.3	16	4 per Day (at 4 hour intervals)	Grab	0.10 mg/L

D. SCHEDULE OF COMPLIANCE FOR CHRONIC WHOLE EFFLUENT TOXICITY

The permittee shall achieve compliance with the final limit for Chronic Whole Effluent Toxicity as specified in Part I.A.1 in this permit in accordance with the following schedule:

SCHEDULE OF COMPLIANCE FOR CHRONIC WHOLE EFFLUENT TOXICITY	
1. Prepare progress reports.	Annually beginning 1 year from the permit effective date.
2. Achieve compliance with the final effluent limitations for chronic whole effluent toxicity.	No later than 4 years from the permit effective date.

No later than 14 calendar days following the dates identified in the above schedules of compliance, the permittee shall submit to the Piedmont Regional Office, either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

E. WHOLE EFFLUENT TOXICITY (WET) LIMITATION REQUIREMENTS

1. The Whole Effluent Toxicity limitation of $\leq 1.12 \text{ TU}_c$ (NOEC $\geq 89\%$) in Part I.A. is a final limit with an effective date of 4 years from the effective date of this permit.
2. Commencing with the first complete calendar quarter after the effective date of the limit, the permittee shall conduct quarterly Chronic 3-Brood Static Renewal Survival and Reproduction Tests using *Ceriodaphnia dubia* using 24-hour flow-proportioned composite samples of final effluent from outfall 001.

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions, derived geometrically) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction. The test endpoint (89%) must be represented by a dilution, and if other than 100%, should be bracketed by at least one dilution above and one dilution below it. Results which cannot be determined (i.e., a "less than" NOEC value) are not acceptable, and a retest will have to be performed. A retest of a non-acceptable test must be performed during the same compliance period as the test it is replacing. Express the test NOEC as TU_c (Chronic Toxic Units), by dividing $100/\text{NOEC}$ for DMR reporting. The Inhibition Concentration to 25% of the organisms (IC_{25}) should be included on the submitted test reports. A copy of the toxicity test results shall be submitted with the DMR. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

3. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters.
4. The permittee shall report the results on the quarterly DMR and submit a copy of each toxicity test report in accordance with the following schedule:

<i>Test Period</i>	<i>Test Period Dates</i>	<i>DMR/Report Due Date</i>
Quarter 1	Jan 11 – Mar 31, 2020	Apr 10, 2020
Quarter 2	Apr 1 – Jun 30, 2020	Jul 10, 2020
Quarter 3	Jul 1 – Sep 30, 2020	Oct 10, 2020
Quarter 4	Oct 1 – Dec 31, 2020	Jan 10, 2021

F. WHOLE EFFLUENT TOXICITY (WET) MONITORING REQUIREMENTS

1. Within the first calendar quarter after the effective date of the permit, the permittee shall conduct quarterly chronic toxicity tests on Outfall 001 using 24-hour flow-proportioned composite samples until the WET limit of Part 1.A. is effective. The test to use is the Chronic 3-Brood Survival and Reproduction Static Renewal Test using *Ceriodaphnia dubia*.
2. DEQ will consider the use of 24-hour time-proportioned composite samples instead of 24-hour flow-proportioned composite samples if the facility can demonstrate that the discharge flow does not vary by more than 10% in a 24-hour time frame. The permittee shall submit the documentation for review and approval. If approved by DEQ, subsequent samples may be collected as 24-hour time proportioned composites.
3. These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions, derived geometrically) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable, and a retest will have to be performed. A retest of a non-acceptable test must be performed during the same compliance period as the test it is replacing. Express the test NOEC as TU_c (Chronic Toxic Units), by dividing $100/NOEC$ for DMR reporting. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC in the test report.

The permittee may provide additional samples to address data variability. These data shall be reported and may be included in the evaluation of effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

4. The test dilutions should be able to determine compliance with the following endpoints:

Chronic NOEC of $\geq 89\%$ equivalent to a TU_c of ≤ 1.12

5. The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.
6. The permittee shall report the results on the quarterly DMR and submit a copy of each toxicity test report in accordance with the following schedule:

<i>Test Period</i>	<i>Test Period Dates</i>	<i>DMR/Report Due Date</i>
Quarter 1	Apr 1 – Jun 30, 2016	Jul 10, 2016
Quarter 2	Jul 1 – Sep 30, 2016	Oct 10, 2016
Quarter 3	Oct 1 – Dec 31, 2016	Jan 10, 2017
Quarter 4	Jan 1 – Mar 31, 2017	Apr 10, 2017
Quarter 5	Apr 1 – Jun 30, 2017	Jul 10, 2017
Quarter 6	Jul 1 – Sep 30, 2017	Oct 10, 2017
Quarter 7	Oct 1 – Dec 31, 2017	Jan 10, 2018
Quarter 8	Jan 1 – Mar 31, 2018	Apr 10, 2018
Quarter 9	Apr 1 – Jun 30, 2018	Jul 10, 2018
Quarter 10	Jul 1 – Sep 30, 2018	Oct 10, 2018
Quarter 11	Oct 1 – Dec 31, 2018	Jan 10, 2019
Quarter 12	Jan 1 – Mar 31, 2019	Apr 10, 2019
Quarter 13	Apr 1 – Jun 30, 2019	Jul 10, 2019
Quarter 14	Jul 1 – Sep 30, 2019	Oct 10, 2019
Quarter 15	Oct 1 – Dec 31, 2019	Jan 10, 2020